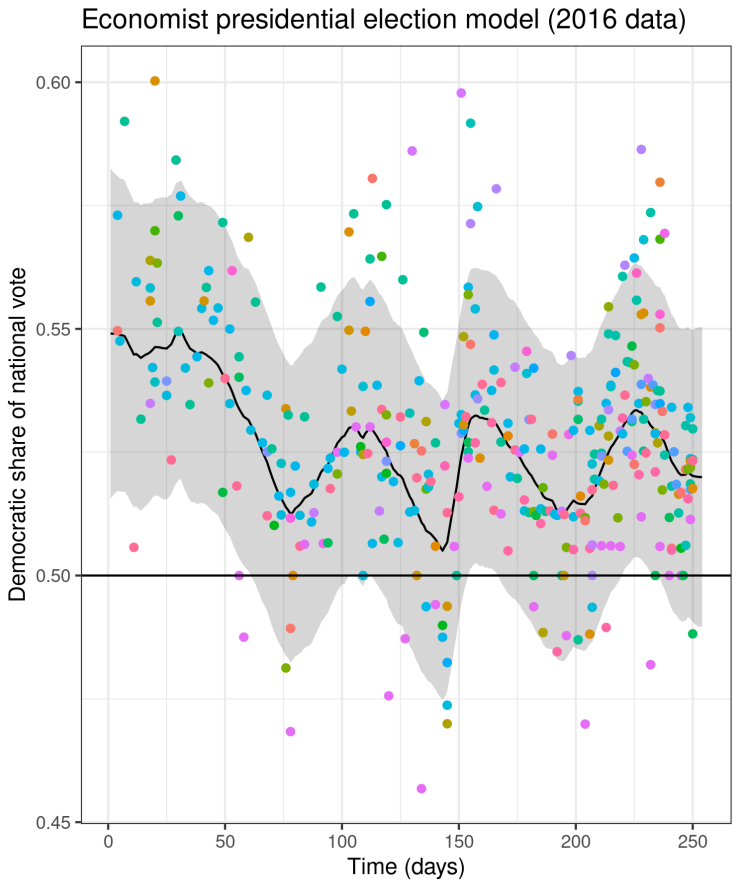
Economist 2016 Election Model [Gelman and Heidemanns, 2020]



Model each poll as

$$y_i|\pi_i \sim \text{Binomial}(\pi_i)$$

$$\text{Logit}\,\pi_i = \mu^b_{s[i],t[i]} + \alpha_i + \zeta_i^{state} + \xi_{s[i]}$$

Pack everything we don't know into

$$\theta \in \mathbb{R}^{15098}.$$

If we knew θ, we'd know the outcome of the election up to Binomial randomness.

The questions is: **which values of θ are consistent with the data we saw?**

Forward and inverse problems

(link)

References

A. Gelman and M. Heidemanns. The Economist: Forecasting the US elections., 2020. URL https://projects.economist.com/us-2020-forecast/president. Data and model accessed Oct., 2020.